



Industry Canada

Industrie Canada

Government
Publications

CA1
IST5
- 1996
R13

3 1761 11765360 0



SECTOR COMPETITIVENESS FRAMEWORKS

RAIL AND GUIDED URBAN TRANSIT EQUIPMENT HIGHLIGHTS



**Industry
Sector**
Transportation
Industries

**Secteur
de l'industrie**
Industries
des transports

Canada

Sector Competitiveness Frameworks are a new series of documents produced by Industry Canada in partnership with Canada's key industry stakeholders. Each framework will examine a major Canadian industry sector, and will be prepared in two volumes. *Part 1 — Overview and Prospects* focusses on the opportunities, both domestic and international, as well as on the challenges facing industry sectors in Canada. *Part 2 — Framework for Action* will be based on consultations with major industry stakeholders, following study and review of the *Overview and Prospects*.

The objective of the **Sector Competitiveness Frameworks** series is to seek ways in which government and private industry together can strengthen Canada's competitiveness and, in doing so, generate jobs and growth.

In all, some 29 industrial sectors will be analyzed. *Part 1 — Overview and Prospects* will be available for distribution in printed as well as electronic forms during coming months for the following industries:

Aircraft and Aircraft Parts
Automotive Industry
Bus Manufacturing
Consulting Engineering
Forest Products
Household Furniture
Petroleum Products
Plastic Products
Primary Steel
Rail and Guided Urban Transit Equipment

To order any document in the **Sector Competitiveness Frameworks** series, please send your request to us by Fax at (613) 941-0390 or by E-mail at order.commande@ic.gc.ca

To obtain additional information about the **Sector Competitiveness Frameworks**, please phone us at 1-800-390-2555

Electronic copies of *Rail and Guided Urban Transit Equipment: Part 1 — Overview and Prospects* are available on the Internet at the following address: http://strategis.ic.gc.ca/rail_and_guided_urban_transit_equipment.scf

This Highlights document can be made available in alternative formats upon request.

© Minister of Supply and Services Canada 1996

Cat. No. C21-22/7-1-1996-1E

ISBN 0-662-24748-5

Aussi disponible en français sous le titre : Points saillants sur le matériel de transport ferroviaire et de transport urbain guidé.



HIGHLIGHTS

The Canadian rail and guided urban transit (GUT) manufacturing industry is globally competitive and plays a vital role in national wealth creation. It contributes to innovation, rationalization, design and development of both private and public transportation components and systems.

- Total shipments: \$2.2 billion in 1994 (0.5 percent of overall manufacturing shipments).
- Jobs: 10 000 in 1994.
- The sector has a reputation for quality, reliability and service.
- It has shown strong growth of export and domestic sales since the 1970s.
- It has built a solid product design and development base through rationalization, foreign affiliation and export market penetration.
- It has proven its ability to supply and manage large projects and maintain price competitiveness.
- Because of government restraint and lack of in-country expertise, transit authorities are increasingly asking GUT suppliers to submit

complete build, own (and in some cases operate) and transfer proposals, known as BOT or BOOT.

- Companies form broadly based consortia to undertake and finance these proposals, usually with the involvement of private sector equity. Bombardier and SNL Lavalin Inc. are experienced in forming such consortia.
- As a result of industry specialization and non-tariff barriers such as the U.S. "Buy America" and other requirements, the sector usually purchases major systems and components such as engines and control equipment from U.S. suppliers.

Exports have grown dramatically in recent years in an industry that depends on foreign markets for 70 percent of its shipments.

- 1985 exports: less than \$200 million.
1995 exports: \$1.3 billion.
- Major contributors to this growth: sales in passenger cars from Bombardier; locomotives from Diesel Division of General Motors (DDGM) and freight cars from National Steel Car Ltd.

- Rail parts exports hit a record level of \$555 million in 1994, an increase of more than 36 percent over the 1993 level.
- Over 70 percent of shipments is exported, of which most (92 percent) goes to the U.S.
- Despite a small domestic market, the industry competes successfully on the international front. Over the past 15 years, market share for every sector has improved, including:
 - freight car manufacturers who recently regained market share — 1995 domestic sales were 1000 freight cars, exports to the U.S. totalled 3000 cars
 - rail equipment — Canadian firms have 20 percent of the total North American market
 - the urban transit sector — Canada has 35 percent of this market.
- In early 1996, Bombardier won contracts as a member of two high-speed rail consortia: one dealing with the Florida Overland Express, the other with the U.S. Amtrak northeast corridor project.

Many Canadian companies develop innovative products and technologies through joint ventures, licensing, acquisitions and in-house R&D. For example:

■ *Bombardier:*

- invests 3 percent of revenues in transport R&D and receives public and private sector contracts to develop new vehicle prototypes
- its English Channel shuttle cars include onboard computerized monitoring and control networks, and lightweight durable materials used in the aerospace industry
- its Transportation Systems Division designs, integrates and delivers a total transportation package through a turnkey or project management approach.

■ *Diesel Division of General Motors:*

- is first in North America with a commercially successful AC traction freight locomotive, a new generation of high-power locomotive
- conducts its major locomotive manufacturing R&D in the U.S.

■ *intermodal transportation:*

- Innoterminal Inc. has developed unique technology that enables slightly modified truck trailers to operate on train tracks
- Ecorail, a subsidiary of Canadian National (CN), in partnership with truck carriers, is testing this technology between Drummondville and Mississauga
- together Canadian Pacific (CP) and U.S. rail company CSX Intermodal are testing a new 400-metre train, with special locomotives at each end and a ramp that, when lowered, permits trailers to be driven onto the train's flatcars.

■ *Intelligent Transportation Systems (ITS):*

- is an emerging sector whose opportunities for Canadian companies look promising
- applies computer technologies, communications and electronics to improve safety, efficiency and productivity and to reduce the environmental impacts of surface transportation systems.

With a domestic market too small to support high R&D expenditures, Canadian companies conduct less R&D than their foreign counterparts.

- Major U.S., European and Japanese firms commit more resources to product development than Canadian firms.
- With their size and market access, these foreign firms have a greater base over which they can amortize large R&D expenditures.
- In addition, these major competitors benefit from favourable domestic procurement policies and R&D assistance.

While most investment in Canada focusses on upgrades to existing plants and equipment, some firms have tapped international markets.

- Bombardier has put a large portion of its capital investment in the U.S., Mexico, Europe and Asian countries. In some cases, this has been to avoid non-tariff and other barriers while establishing a presence in key markets.

The future of the Canadian GUT and rail industry depends on its access to markets large enough to accommodate economies of scale in production and development activities. Only through export sales can it meet these requirements.

- Canada's market is too small to accommodate large-scale production and development activities, even in the absence of interprovincial trade barriers.
- It must rely on export sales to achieve the necessary critical mass. To export successfully, the industry must develop and maintain system design capabilities, technological expertise, competitive prices and the financial strength to bid on larger projects.
- But Canadian exports face impediments including:
 - non-tariff barriers, especially government procurement policies
 - U.S. domestic procurement policy, especially as it applies to small and medium-sized parts-producing firms.

- Historically, the European and Japanese markets have been particularly difficult to penetrate.
- Despite these barriers, Canadian firms perform relatively well in world trade. Performance would improve if fewer barriers existed.

Canadian companies will need to comply with the U.S. Environmental Protection Agency's (EPA) new emission standards scheduled for the year 2000.

- Required by the 1990 U.S. *Clean Air Act*, these new standards target maximum reduction of diesel locomotive emissions through new technology, taking into consideration associated costs, noise, energy and safety factors.
- U.S. railroads and diesel locomotive manufacturers currently are developing this technology.
- Canadian railway companies with business in the U.S., such as Canadian National (CN) and Canadian Pacific (CP), are expected to comply with the new standards as they apply to U.S. railroads. Since they have older fleets than the U.S. companies, CP and CN will incur high replacement and rebuilding costs.

- The new standards create opportunities for Canadian suppliers to participate in the development of new environmental technologies.
- The environmentally friendly nature of rail transit relative to other automotive vehicles will sustain the demand for rail travel.

Industry Canada's Framework for Action for the GUT and rail industry will consider the industry's strengths as well as the challenges it faces.

- The industry is a vital part of the transportation equipment manufacturing sector. Flexible in technical and commercial linkages, it appears well positioned to increase its share in the overall transportation equipment market.
 - The industry is 150 years old. Its six principal firms have adapted well to trends and changing economic conditions. They have rationalized plants as part of the North American market.
 - Despite past structural problems, the industry has a solid record and a bright future.
- To secure this future, the industry must:
 - keep pace with technological change by maintaining its leading edge in key product lines
 - improve productivity and international competitiveness through sizable investment in R&D, human resources and market development
 - welcome new technology, differentiated products, competitiveness and marketing (which is critical for small and medium-sized parts-producing firms for whom the effects of non-tariff barriers are particularly adverse)
 - encourage harmonized capital cost allowance in the interest of a level playing field for builders and lessors
 - prepare itself for intense international competition in a global market dominated by large diversified multinational enterprises.

For further information concerning the subject
matter contained in these Highlights, please contact:

Transportation Industries Branch

Industry Canada

Attention: Kathie Wells

235 Queen Street

OTTAWA, Ontario

K1A 0H5

Tel.: (613) 954-8336

Fax: (613) 941-5533

E-mail: wells.kathie@ic.gc.ca

